

Barley Yellow Streak Mosaic Virus

Since there is no commercially available antisera, learn to recognize:

- 1. The vector, which is the brown wheat mite and its active red eggs and white diapausal eggs.**
- 2. Symptoms.**
- 3. Plants that may become infected, especially recrop barley, and mechanically only to *N. benthamiana*.**
- 4. Conditions conducive to large mite populations and spread of the virus.**
- 5. What the virus looks like.**



Feeding brown wheat mite, a true spider mite,
vector of BaYSMV.



The BWM is a small mite which does not spin a web. Non-viruliferous mites will leave a silver trail of feeding damage distinguishable from viral symptoms.



Active red and white diapausal eggs.



White diapausal eggs laid on a rock.



White diapausal eggs laid on straw.



Symptoms of BaYSMV in barley include light green to yellow dashes and streaks.



Light yellow dashed and streaks and half yellow leaf appearance.

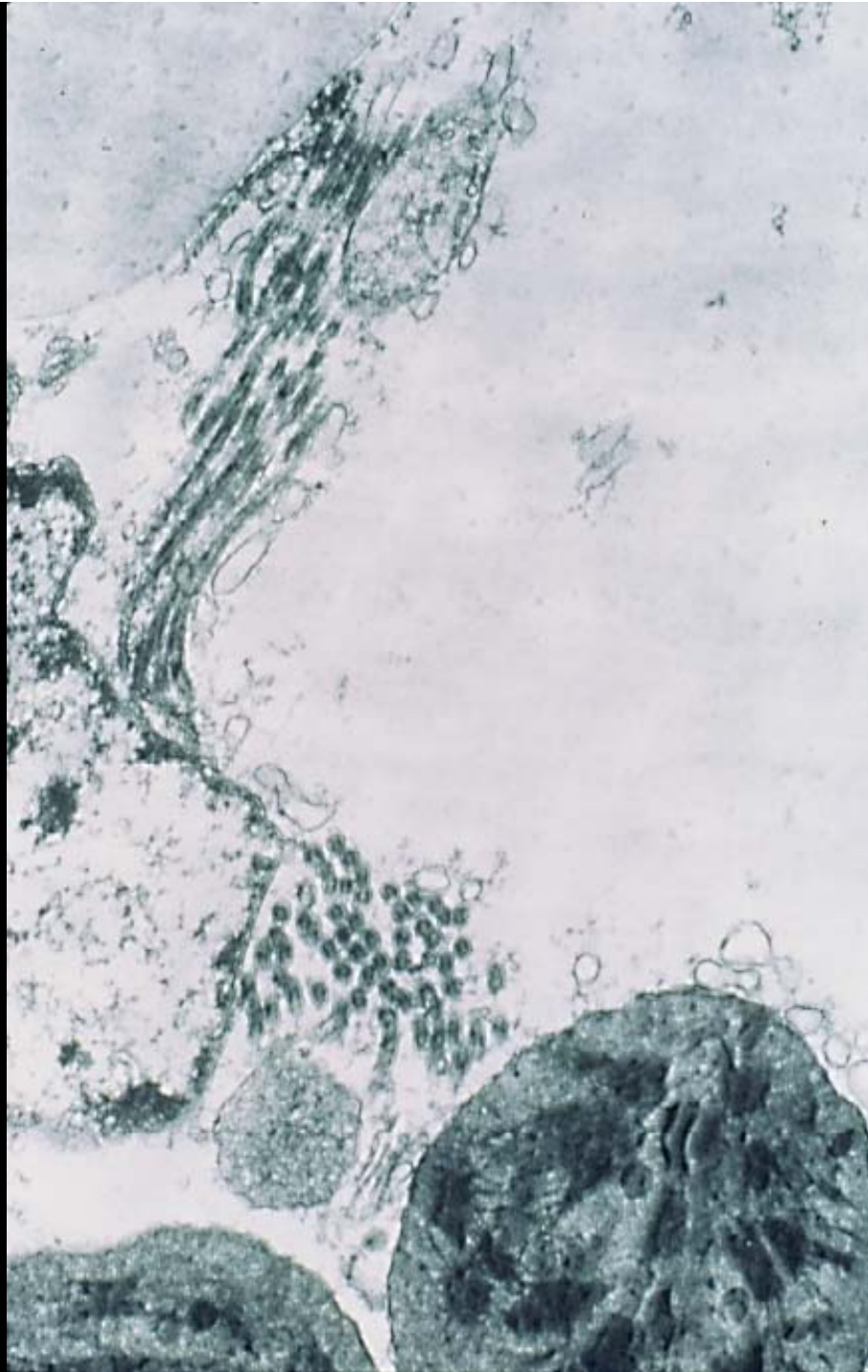


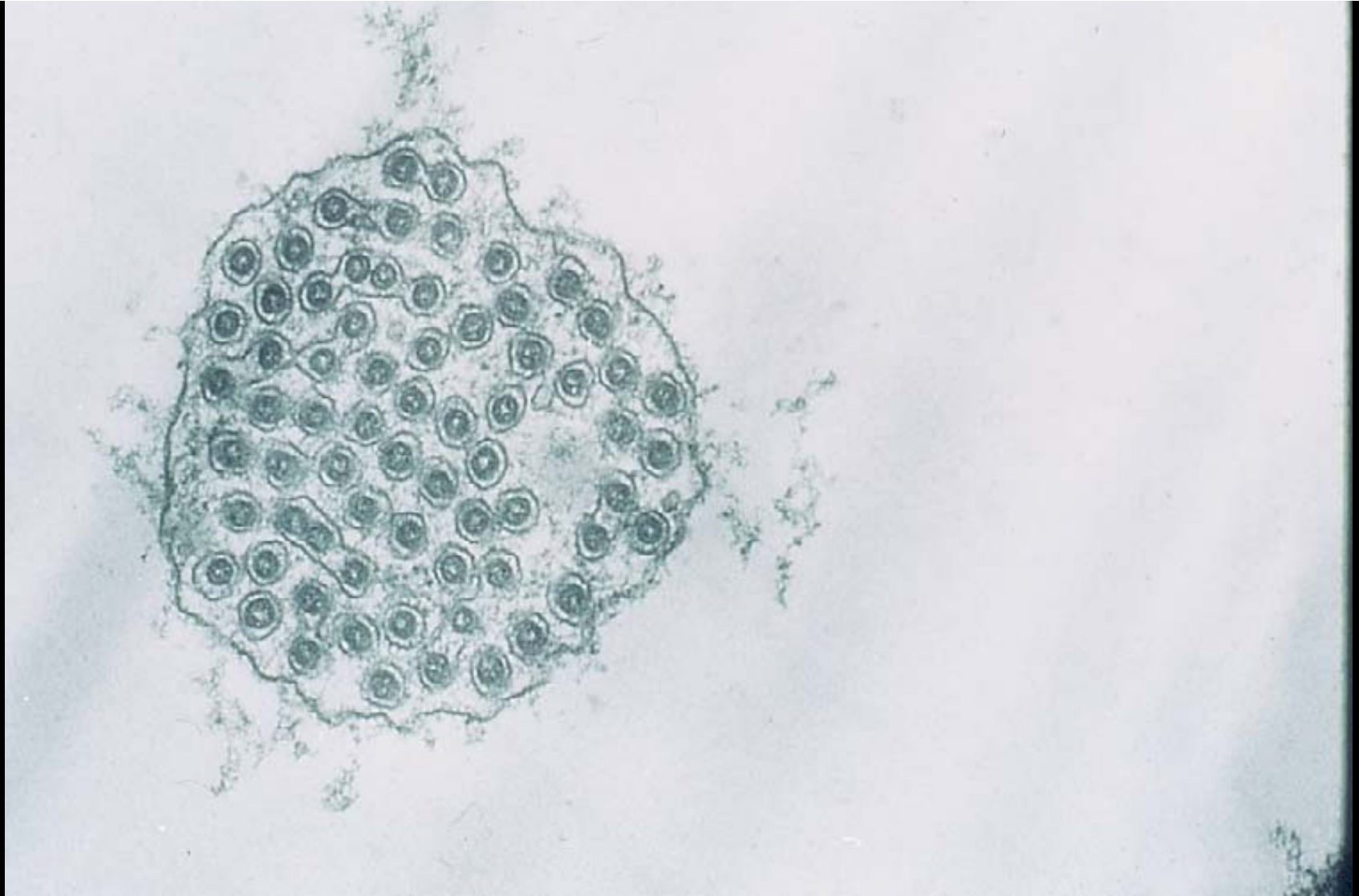
Half yellow leaf symptoms in barley.



BaYSMV is mechanically transmissible to *N. benthamiana* but not barley.

Transmission
electron micrograph
of BaYSMV.
Particles measure
about 64nm wide
and 127 to over
4,000nm in length.





Cross section of particles reveal a loose outer membrane and tight inner membrane with a hollow core. Projections can be seen protruding from the inner membrane.

In conclusion, when you find the following items, you can be pretty sure it is BaYSMV:

1. The brown wheat mite in recrop barley under dry conditions. Eggs laid on rock, debris, or clumps of soil.
2. Yellow streaks and dashes on wheat and barley including yellowing of half of a leaf.
3. Mechanical transmission onto *N. benthamiana* but not barley or wheat.
4. Virus particles which are ~64nm wide and very long, 127-4,000nm.